

# PRELIMINARY APPEAL BRIEF REQUEST FOR REVIEW

Docket Number:

12406-017001

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Application Number

09/830,038

First Named Inventor

Hohn et al.

Art Unit

2841

Filed

July 17, 2001

Examiner

Tuan T. Dinh

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

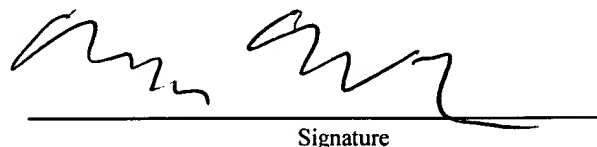
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☐ attorney or agent of record \_\_\_\_\_  
(Reg. No.)

☒ attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 CFR 1.34  
56,842

  
Signature

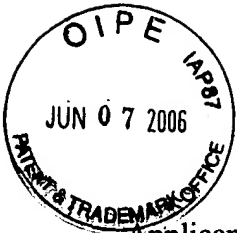
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June 5, 2006  
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☒ Total of no. forms are submitted.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Hohn et al.  
Serial No. : 09/830,038  
Filed : July 17, 2001  
Title : ELECTRONIC COMPONENT AND COATING MEDIUM

Art Unit : 2841  
Examiner : Tuan T. Dinh

**MAIL STOP AF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Pursuant to United States Patent and Trademark Office OG Notice of 12 July 2005 – New Pre-Appeal Brief Conference Pilot Program – we request review of the outstanding rejection by a panel of examiners because of the rejections of record are clearly not proper. Should this application proceed to appeal, we reserve the right to present arguments and evidence in addition to those set forth below.

Claims 1-7 and 27-33 are pending. Independent claim 1 recites “a plastic housing ... at least partially covered by an anti-solder coating that prevents solder adherence to the coating.” All of the remaining claims similarly require this anti-solder coating. The specification explains that the anti-solder coating addresses the problem of “solder splash” – which refers to the accumulation of solder on surfaces not intended for soldering (see, e.g., page of 1 of the specification.) Dependent claims 2-6 recite with progressively greater specificity the chemical composition of the anti-solder coating.

The final action dated March 20, 2006 rejects claims 1-7, 27-31, and 33 as allegedly obvious over U.S. Patent 4,030,948 (“Berger”) in view of Prior Art shown in Figure 2 of the present application (“PA”). This action (as well as the prior two actions) relies solely on Berger for allegedly disclosing the claimed “anti-solder coating,” specifically pointing to conformal coating

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6-5-06

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*Cheryl G. Forrester*

*CHEYL A. FORRESTER*

Typed or Printed Name of Person Signing Certificate

layer 34. As we have explained in each of prior two Replies (dated June 16, 2005, and January 3, 2006) and as we do so here again below, this is wrong.

There is nothing in Berger to indicate that his coating layer 34 prevent solder from adhering to it. He does not describe the problem of solder splash, nor does he indicate whether or not solder adheres to the coating layer 34. To the contrary, the word "solder" only appears twice in Berger, and only in the context of describing the presence of electrically conductive solder layers 28 and 32 in Figure 1. (See 3:25-31 in Berger.)

As best we understand it, the Examiner's position seems to be that coating layer 34 in Berger inherently has the claimed anti-solder property. To support such a position "the examiner *must* provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art." (MPEP § 2112(IV), emphasis added, citations omitted.) We submit that the Action clearly fails in this regard.

The Examiner has repeatedly taken the position that disclosure in Berger that the conformal coating layer 34 "is adhesive tenaciously to the surface of the device" implies that layer 34 has the claimed anti-solder property. (See, for example, 3/20/06 Action at page 7.) The cited section from Berger reads as follows:

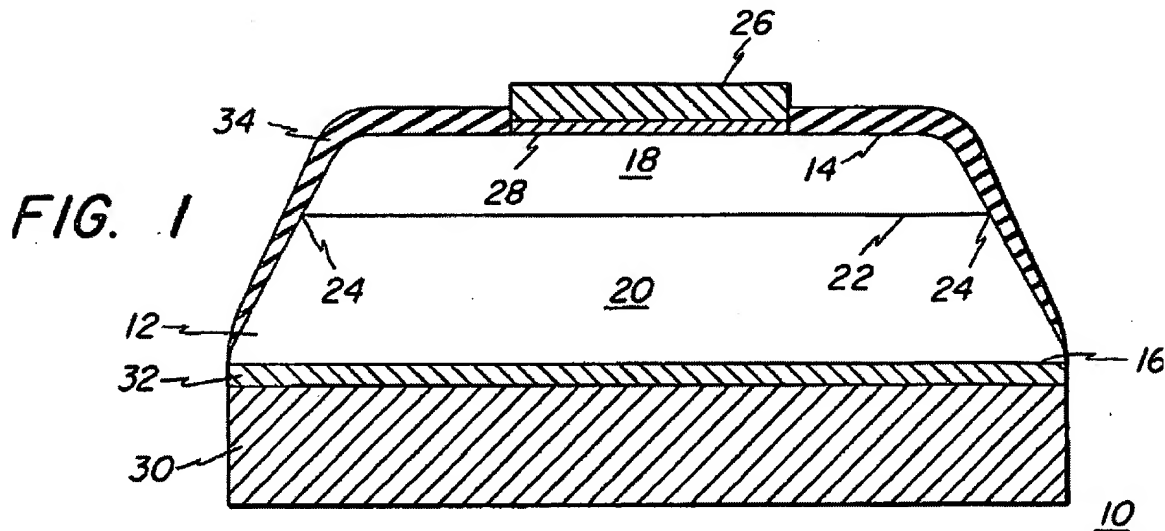
"The material of the layer 34 comprises one of the novel conformal coating materials to be described heretoafter ... The material [of layer 34] should adhere very tenaciously to the surface to which it is applied ..." (col. 3, lines 52-53.)

We respectfully submit that the cited section does not support, and if anything, *contradicts* the Examiner's conclusion.

Specifically, the cited section refers to the adherence of the coating layer to the underlying device it covers, for example, the adherence of layer 34 to semiconductor 12 in Figure 1 of Berger (reproduced below). The Examiner fails to explain why such tenacious adherence between layer 34 and the underlying semiconductor 12 necessarily implies that solder incident on layer 34 from the outside would not adhere to layer 34.

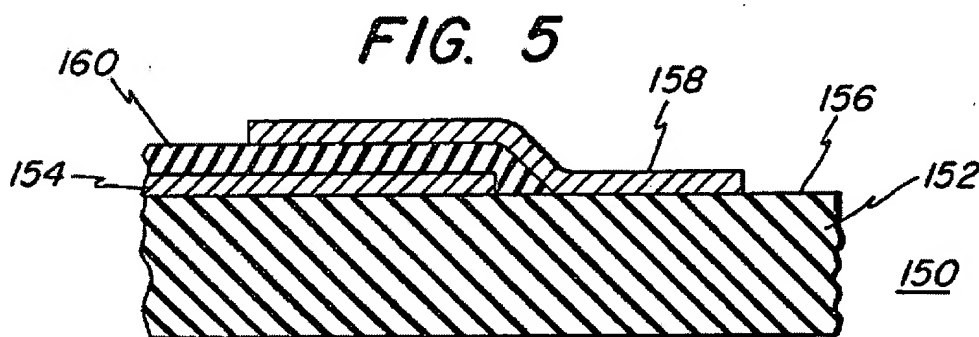
To the contrary, the fact that material in layer 34 does adhere tenaciously to the surface to which is it is applied indicates the opposite – that solder *would* adhere to it. Indeed, Figure 1 in

Berger also shows coating layer 34 contacting, and presumably adhering tenaciously to, solder layer 28.



Moreover, with reference to Figure 5 (reproduced below), Berger states:

"The material of the circuits 154 and 158 may be of copper, aluminum and the like. A layer 160 of a suitable conformal coating material such, for example, as described with reference to layer 34 [sic] ... is disposed on at least the [metal] circuit 154. When cured in situ, the material of the layer 160 shows excellent adherence to the board 152 and the material of the circuit 154. *The metal of the layer 158 adheres well to the cured conformal coating material* and is electrically isolated thereby from the metal circuit 154." (col. 10, lines 37-45, emphasis added, see also Fig. 5.)



Thus, Berger indicates that the metal, such as solder, and the conformal coating material of layer 34 *do* adhere well to one another. So, not only does the section of Berger relied on by the Examiner not show that coating layer 34 necessarily has the claimed anti-solder property, *but Berger actually teaches the opposite.*

As best we understand, the Examiner's only other basis for alleging that coating layer has the claimed anti-solder property is because he alleges that Berger discloses "coating (34) made of silicone, which is a siloxane or polysiloxane applied/coated on the surface of the device" (see Action at page 7), and dependent claims 2-6 of the present application further specify siloxane chemical compositions for the claimed anti-solder coating. For example, claim 6 recites that the claimed coating "consists essentially of a polyether-modified dimethyl-polysiloxane." Likewise the specification refers to such a polymer, specifically BYK348 from Byk-Chemie GmbH, as the preferred embodiment (see specification at page 6).

But, it is not true that coating 34 is made of polysiloxane as alleged in the action, let alone the preferred polysiloxane composition disclosed in the specification. To the contrary, Berger explains that his coating is:

"a reaction product of a tetracarboxylic acid dianhydride, a diamine and a di(aminoalkyl) polysiloxane wherein the polysiloxane diamine constitutes from 18 to 45 mole percent of the total diamines in the copolymer." (col. 2, lines 7-12.)

The recurring structural units of the resulting polymer are shown at col. 2, lines 15-35 of Berger and include a siloxane diamine and a non-siloxane diamine. Thus, the underlying units in Berger are diamines, not siloxanes. Moreover, Berger explicitly emphasizes that the siloxane diamine units only constitutes from 18 to 45 mole percent of the total diamines in the copolymer. Thus, even the siloxane diamine units only make up a small fraction of the composition. Thus the Berger composition is fundamentally different chemically from a polysiloxane.

Even to the extent that this proposition is in dispute because the Examiner is construing the term "siloxane" broadly, there can be no reasonable dispute that the Berger composition is very different from the preferred polyether-modified dimethyl-polysiloxane composition taught in the applicants' specification. So, there is no support for the Examiner's apparent allegation that the Berger composition must inherently have the same anti-solder property as that for the preferred polysiloxane composition disclosed in applicants' specification. Indeed, as explained above Berger actually teaches that his coating and solder do adhere well to one another. Accordingly, we submit the rejection of independent claims 1 and 27-30, and all of the remaining claims that depend there from, are improper.

For the same reason set forth above regarding why the Berger composition is not a polysiloxane, we submit that the rejection of dependent claims 2-6 is improper. Specifically, these claims use the transition phrase "consisting essentially of," which distinguishes them from the composition in Berger because as explained above his composition is composed mostly of non-siloxane units. As explained in MPEP § 2111.03, the transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials and those that do not materially affect the basic and novel characteristic of the claimed invention. Here, it follows that the non-siloxane units in the Berger coating do materially affect its characteristics because: i) the non-siloxane units comprise more than half the composition; and ii) as noted above, Berger teaches that his coating does adhere well to solder, contrary to the claim. Furthermore, with respect to dependent claims 4-6, Berger does not disclose or suggest any of the more specific polysiloxane compositions recited in those claims, specifically, methyl-polysiloxane (claim 4), dimethyl-polysiloxane (claim 5), and polyether-modified dimethyl-polysiloxane (claim 6). To the contrary, as explained above, the Berger coating is a reaction product of a tetracarboxylic acid dianhydride, a diamine and a di(aminoalkyl) polysiloxane. Accordingly, we submit that the rejection of claims 2-6 is improper.

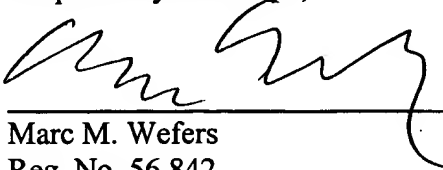
Finally, the Action rejects the claim 32 by disregarding that the claimed coating "can be applied ... from a hydrous solution." (See action at page 8.) But, the features of a product claim can be recited structurally or functionally (e.g., see MPEP § 2114). The Action provides no basis for finding such a feature in the prior art. See pages 9-10 of our prior Reply dated January 3, 2006.

In view of all the above, all of the claims should be in condition for allowance. A formal notice of allowance is thus respectfully requested. Please apply any necessary charges or credits to Deposit Account No. 06-1050, referencing 12406-017001.

Date: \_\_\_\_\_

6/5/06

Respectfully submitted,



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